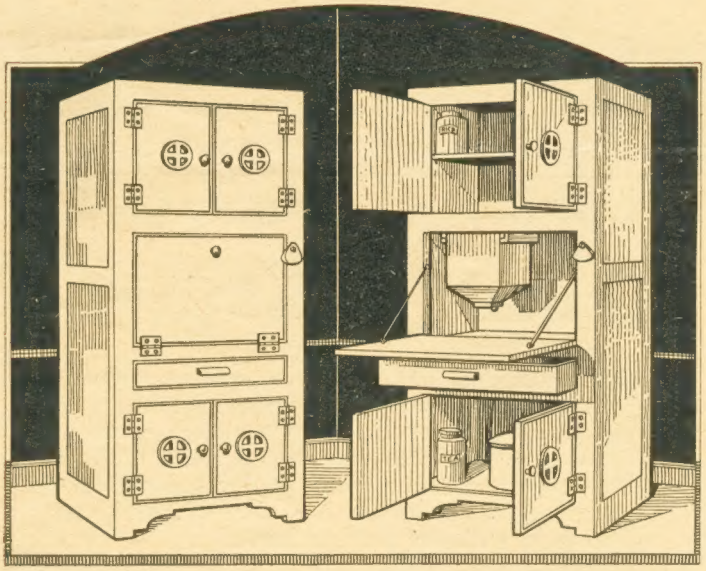
Hobbies WEEKLY



A DOLL'S KITCHEN CABINET

Full size patterns inside

Also articles on Woodwork Electricity Philately, etc. and a new Competition

June 11th. 1938

2D

Vol. 86. No. 2225

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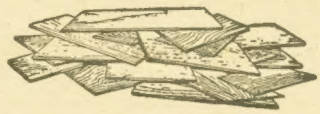

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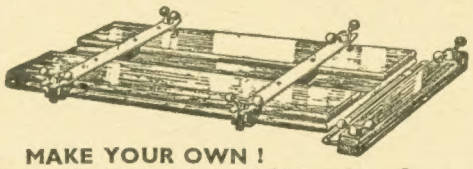

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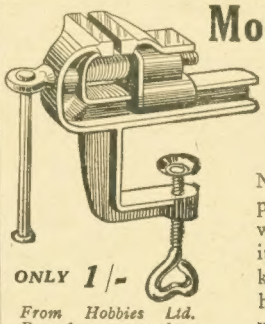

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Hobbies WEEKLY
June 11th. 1938 Vol. 86. No. 2225

DOLL'S KITCHEN CABINET

HERE is another of those interesting series of models for the Doll's Kitchen, which we are sure will be as popular as any of its predecessors. We have already had two or three, and shall still have one or two more to complete the whole series. So in the end one has a complete set of furniture which would delight any youngster to play with.

Not only are they good to look at, but they are practical in use. An excellent example of this is shown by the complete Kitchen Dresser which is offered with the patterns of this week's centre page drawings. The finished model is seen here, and it is a delightful little toy which stands 12ins. high, $5\frac{5}{8}$ins. wide and is $2\frac{5}{8}$ins. from back to front when closed.

A Realistic Model

That is not all, however. It opens out just like the prototype as can be seen in the second picture, following out in a realistic manner the real dressers of the modern kitchen.

Four doors provide ample interior cupboard space, whilst in the centre there is a drop leaf forming the pastry table complete with flour hopper fitted to the underside of the top shelf.

Beneath this drop front, too, is an ordinary drawer, whilst the front of all the doors are fitted with circular ventilators.

The whole thing is easily made from a few pieces of fretwood and, of course, the use of the fretsaw and the usual other tools. In addition, there are sundry small knobs for the doors, etc., as well as hinges and a piece of small chain and two screw eyes for holding.

The best plan is to get the special parcel of wood supplied, because then you have the various parts in their correct sizes and thicknesses, in suitable wood planed already to start. Moreover, the fittings are also supplied complete.

We may say here that the model can be made up in plywood, but this always creates the difficulty of screwing the parts together.

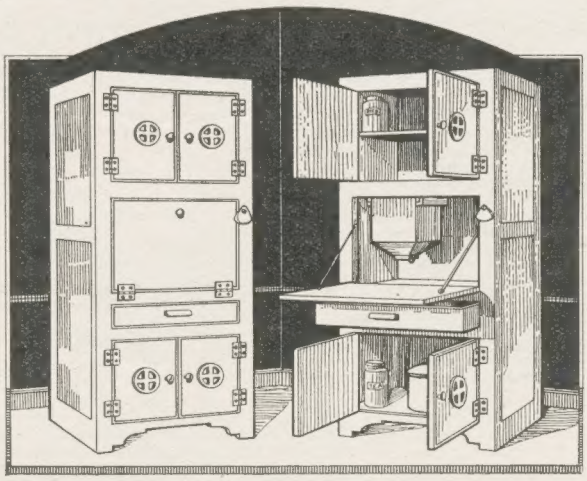
It is no easy job to drive thin fretwork screws into the various thicknesses of the ply glued together. It can, indeed, only be done by boring a hole very carefully, almost large enough to take the shank of the screw.

A better plan is to use seasoned fretwood of the correct thicknesses so that not only can glue be applied, but also tiny fretnails or screws if required.

Marking the Parts

Most of the parts are plain rectangles, and there is really not much need, therefore, to paste the patterns down to the boards. Measure the sizes off carefully, and transfer the dimensions to the wood direct.

Or you can lay the paper to the wood, then prick a hole at the corners afterwards linking up with pencil on the face of the board. The parts which do require shaping are the little wheels forming the ventilators, and the lower edge of the back and front.



Notice that the single pattern shown will have to do for both these parts with this difference. The back is a solid piece cut to the outline only. The front, on the other hand, contains the doors, and these can be cut from the same piece.

The sawblade actually runs between the double lines shown, and a very fine drill point should be used at one of the corners, so its position will not be seen after the cutting is completed.

By the way, when you have cut round these various doors, drawer front, etc., replace the actual piece in the framework and just mark a pencil line across the sawcut. This need only run on to the door and on to the outline piece itself about ¼in., but will be sufficient to ensure that the piece of wood is returned to the same position and the same way round.

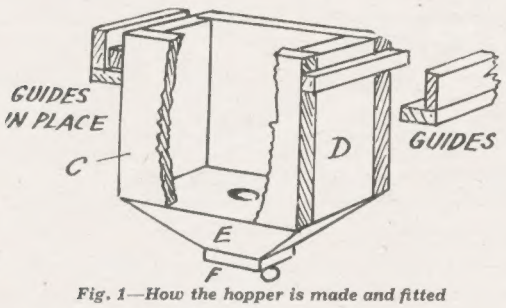


Fig. 1—How the hopper is made and fitted

A medium fretsaw, by the way, should be used in cutting out these doors, to allow for the swing when they are in use. They can be hinged right away with ½in. brass hinges at the points given by the dotted lines, whilst the little four circular ventilators can also be got out and screwed in position with round-head screws.

Temporary Fitting

Do all this work more or less temporarily because when you are going to glasspaper and paint up the whole thing afterwards these parts will have to be taken off. There is actually no need for the hinges to be stripped, but it makes a neater job if you do so, and replace them after the paint has been applied.

The piece which forms the drawer front should be laid aside until we come to the construction of the drawer itself, but the drop front immediately above it can be hinged on, then fitted with a piece of chain on the inside to prevent it from falling too far.

A screw eye can be fitted inside the cabinet, and another to the inside of the drop front near the forward edge. The chain is then put on so it is taut when the front is open. The front and back of the cabinet are thus complete, and we can now fit on the various parts between to form the whole framework.

The pattern of the shelves, it will be noted, are broken in two in the printing, and the parts shown have to be extended to the dimensions given on each. The two sides, four shelves and bottom of drawer are all 2-5/16ins. wide, and it is important, of course, to see that they are all this exact width with edges flush with each other.

The lengths of the various pieces are shown, and in every case one must see the edges are straight and true. All these parts go between the back and front, and are there glued securely.

The Cross Parts

The best plan is to glue all these projecting pieces to the back, then finally to glue the front on over the whole lot. Make sure in doing this that the parts project at right-angles from the back and use a square to test them. Fit on the two long sides, then put the top and bottom between them. These are two of the shelves A. The lower one fits ⅞in. upwards from the bottom edge of the sides.

If necessary you can put tiny blocking pieces round the back and sides to strengthen the whole thing up. These blocking pieces should not be more than ¼in. stuff, and triangular in section if possible.

Notice the position of the two centre shelves (A.A.). The upper one comes immediately below the opening of the doors, whilst the lower one comes immediately below the opening of the drop front.

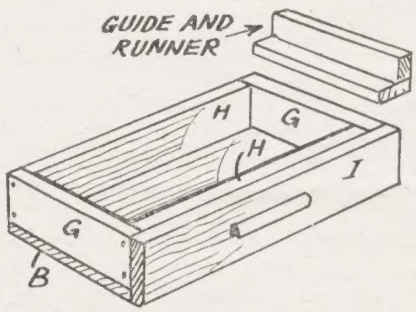


Fig. 2—Construction of the drawer and guides

Before putting on the front itself it is best to finish off the interior by adding the hopper, guides, drawer, etc. A detail of the hopper is given at Fig. 1. This is made from small pieces of wood fitted as shown.

The main body of the hopper is simply a square box-like frame to the bottom of which is fitted the piece E. This is a thick piece of ½in. material through the centre of which is bored the circular hole shown. Then it must be filed to a taper on one face, as can be seen by the drawing herewith.

The filed pieces must follow the edges indicated by the dotted lines so that the four sides slope inwards, but have a flat base to which is screwed the little piece F.

CONTENTS

DESIGN—Doll's Kitchen Dresser

Correspondence should be addressed to: The Editor, Hobbies Weekly, Dereham, Norfolk, and a stamp enclosed with the Reply Coupon from Cover iii if a reply is required. Particulars of Subscription rates, Publishing, Advertising, etc., are on cover iii.

This as shown on the pattern is fitted with a round-head screw towards one end, and provided with a knob at the other. It should not be screwed right home, but just sufficiently to allow for the piece (F) to turn and release the sand (flour) which may be utilised in the hopper itself. This allows the contents to pour out until the inverted lid is turned home again under the hole in the main box.

Hopper Guide

The whole hopper slides in and out on guides, and these, too, are seen in the illustration. Each guide is made up of two pieces glued together, then a ledge glued to the hopper itself $\frac{1}{8}$in. downwards from the top edge. In the drawing one of these guides is in place, and one of them is taken away to show construction.

Glue one of the guides close to the side, and to the underneath face of the top shelf. Put the hopper in position then mark with pencil the position of the other guide before gluing it in place.

The front of the hopper, by the way, is also fitted with a small knob so the whole thing can be pulled out as required. These little knobs, it may be noted, are very tiny, and have only 1/16in. diameter shank. A hole should, therefore, be bored for them with a drill bit only and the knob pressed home and glued in place.

The Drawer

Next we can turn our attention to the drawer, and here again the detail (Fig 2) will help. The front and back parts H are glued between the ends or sides (parts C) and the whole thing fitted as a framework to the base of the drawer (part B).

Get all parts upright then over one long side glue the actual front to the drawer itself. This serves to cover up the edges of wood which would otherwise be seen.

A little strip of wood forms the handle, and the section by the side of the pattern shows the shape to which this should be rounded off. Guides and runners, as shown in the detail, are formed and glued to the sides of the cabinet itself, the runner forming the part upon which the drawer rests.

MATERIALS SUPPLIED

Fretwood.—For making this Cabinet, we supply a parcel of Beech including seven (No. 80) Knobs, for 3/- or post free 3/6.

Fittings—Four small screw eyes and five pairs of $\frac{1}{2}$in. Hinges 9d., with brass chain, post free 10$\frac{1}{2}$d.

A complete parcel of wood and fittings for all parts 3/6, post free 4/-

Small Fittings to Add

All the doors, of course, are fitted with small knobs for opening, whilst the drop front is prevented from falling forward by a little counter weight piece nailed or screwed loosely where indicated on the pattern.

This drop front is prevented from falling inwards by the addition of a little stop glued on the underside of the shelf. The whole toy can be left with the wood in its natural state, after a thorough cleaning up, or can be painted suitably in blue and white.

The sides and doors can just be panelled with a line rectangle. In doing this, let the paint harden thoroughly before the doors are shut, or you will find they may stick.

HOBBIES LEAGUE CORRESPONDENCE CLUB

These Members of Hobbies League would like to get in touch with other readers and so form pen friendships which will undoubtedly prove interesting to all. In this way, one has a wide circle of friends and increased knowledge in people and places, not only in one's own country, but all over the world. Members should write direct to the addresses given, stating their full address and age, adding any hobbies in which they are interested. Hundreds of members have already taken advantage of this Correspondence Club in this way and others who wish to do so should notify the Registrar with the necessary particulars.

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N. T. Bijlani.	*Teksing Street, Sukkur Sind, India.*	*Boy aged 16, anywhere.*	*Stamps.*
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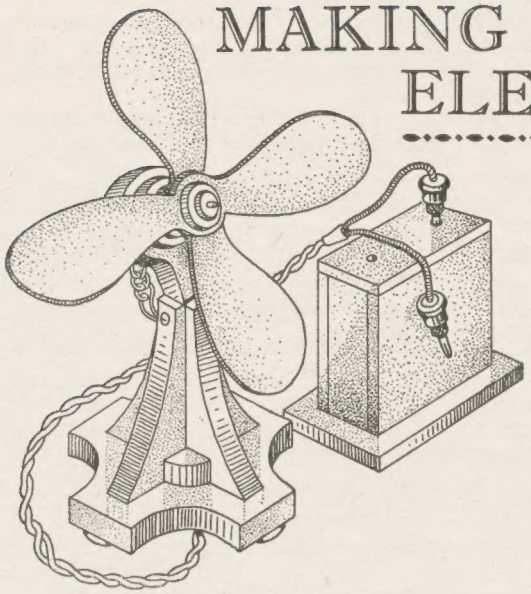
MAKING AN ADJUSTABLE ELECTRIC FAN



ON a hot, stifling day, an electric fan is a great thing to have in the home. So here are details of a simple, inexpensive battery model, the cool breeze of which is delightful and wonderfully refreshing.

The current comes from an ordinary 4.5 v. flashlamp refill concealed in a wooden box, the top of same having two holes for wireless plugs for contact with the battery arms and thus serving for a switch as shown. The motor is a miniature one having a barrel 1⅛in. long by 1in. diam. It is known as the "Daimon" and costs 5/6 in most electrical shops.

It is worth buying this tiny motor, for apart from being ideal for working fans, it only weighs 1½ ozs., and is suitable for model aeroplanes, boats or any purpose where smallness and lightness is important. The current consumption is 0.12 amp off load, to 0.3 amp on load so that practical results can be obtained from even a 3-volt battery. The r.p.m. is 3,000 and the "drone" not unlike a real aero engine.

Making the Standard

The standard could be the first thing to construct. Cut out the pieces shown at Fig. 1 from ½in. wood, including the base at Fig. 2. As it is imperative that the flex running from the battery to the motor must (or should) be concealed in the standard, drill suitable holes through these parts before gluing together and affixing to the base. The holes, of course, are drilled centrally up the half-checks.

Small corner blocks (cut from the waste of the base) are glued to the base top as in the illustration. The electric motor casing detailed in Fig. 2 is cut from ½in. stuff, with the washers from ¼in. material. Having rounded the neck end of the casing (see side elevation at Fig. 4), drill a suitable hole through for ⅜in. by 4 roundhead screws for pivoting the casing to the standard.

When fitting the motor, it might be necessary to bind it with adhesive tape to ensure a tight fit. Another method is to split the side washers to grip against the barrel sides as tight as possible. When fitted, thread a length of twin flex through the standard and bring the ends through a hole in the back half of the standard piece seen at Fig. 4.

Having withdrawn the flex several inches, tie a knot (marked X) and affix the flex ends to the motor terminals by winding the loose wire around them.

The Fan Blades

The fan consists of two pieces of 1/16in. plywood cut the size and shape given at Fig. 2. You will also require two hub washers 1in. diam. by ⅛in. thick, and two more ½in. diam. by 1/16in. thick, all being cut from plywood.

Drill central holes in the fan pieces and the washers to suit the shaft of the motor tightly. Now insert a ½in. washer on the *drill bit*, then glue on an 1in. one.

The fan blades follow, then comes the other 1in. and ½in. washer. A smearing of glue should be between each part so they can be squeezed together (on the drill) and the blades of the fan adjusted to right angles.

When the glue sets, the drill is removed. Before it does so, however, see that the fan is perfectly balanced and not in twist. You can tell this easily by revolving the work by means of the drill.

MATERIALS REQUIRED

2 standard pieces, 4ins. by 3½ins. by ½in. thick.
1 base piece, 4½ins. by 4½ins. by ½in. thick.
1 motor case piece, 3½ins. by 2ins. by ½in. thick.
2 fan (3-ply) pieces, 7ins. by 1⅝ins. by 1/16in. thick.
1 box top, 3ins. by 1½ins. by ½in. thick.
1 box bottom, 4ins. by 2½ins. by ½in. thick.
2 side pieces, 3ins. by 3ins. by ½in. thick.
2 end pieces, 3ins. by 1in. by ½in. thick.
4 wooden or rubber feet.
Electrical components are obtainable locally.

NOTE.—In case of difficulty, the motor (Cat. No. 630-308) is obtainable from L. Wilkinson, 204, Lower Addiscombe Road, CROYDON, England for 5/9, post free.

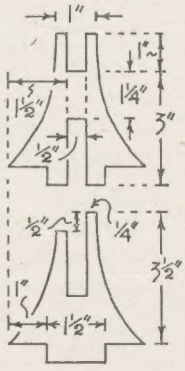


Fig. 1—Size and shape of stand parts

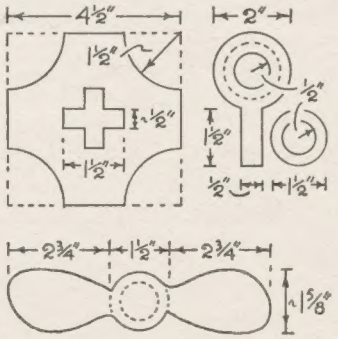


Fig. 2—Dimensions and shapes of base, motor casing and fan blades

If the fan is in true alignment and has dried, twist the blades in an anti-clockwise direction so that by revolving to the right, they will send out a stream of air Steam the blades prior to twisting in the manner desired and twist them more than necessary, for in drying, a slight contraction will occur and make the "throw" or pitch less effective.

Having made the fan, it is forced on the motor shafting and tested via the battery. When forcing the fan on, by the way, keep your thumb behind the motor so as not to cause damage to the back terminal boss.

Battery Box Construction

The battery box is made throughout from ¼in. plywood. Fig. 3 gives the necessary sizes of the sides, ends, top and base. The sides, you will note, have tenons for the mortises cut in the base piece.

Glue and nail the sides flush with the ends, then add the top. Nail heads are sunk and filled in with plastic wood. The plug holes are made about ⅝in. from the ends of the top. The wireless plugs used should be red and black to match the twin flex.

In order to change the battery, the box should be held temporarily to the base by the tenons. The best finish for the work is enamel paint and this we leave to your own choice of colouring. The fan, naturally, is removed for painting purposes then affixed again when dry.

Four wooden toes may be glued to the base or you could use brass or rubber feet. Such are necessary in view of the flex running beneath the base. Boot or shoe eyelets inserted in the plug holes of the box improves its whole appearance They must fit tight and not pull out with plugs.

If you wish to reverse the direction of the fan, change the plug positions. The motor works best, however, in the clockwise direction.

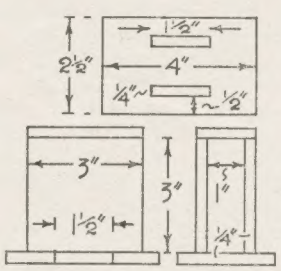


Fig. 3—Sizes of battery box

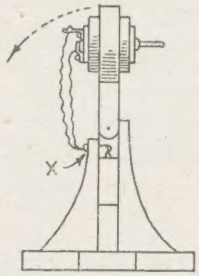


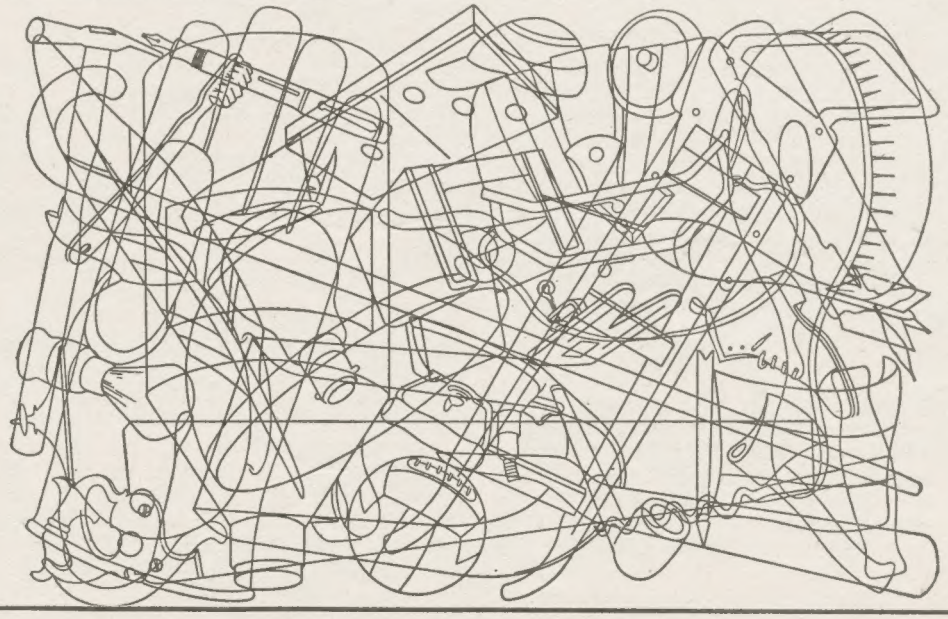
Fig. 4—A side elevation

Another Maze Competition!

THESE simple competitions are always popular, everyone stands a chance. See how many everyday articles you can spot in the drawing below, make a list of them and put the total at the end with your full name and address. Send the entry to the Editor, Hobbies Weekly, Dereham, Norfolk, to arrive by June 18th. The one with the complete list of all correct articles will get a Gem Fret-machine (value 30/-) as 1st Prize with a Guinea Swan Fountain Pen as 2nd Prize for the next best. In the event of a tie, neatness will count. Editor's decision final, and names of winners in Hobbies Weekly later.

Prizes To be Won

Closing Date June 18th



MAKING A WIND HARP

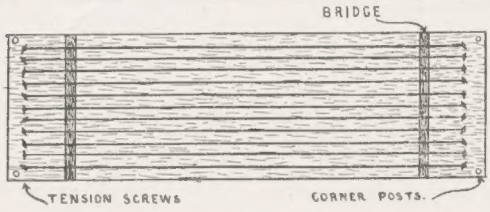
AN Æolian, or Wind Harp is quite easy to construct and needs no skill in playing, for if properly built and fixed into a suitable place, the slightest breeze will set its strings vibrating and strange, beautiful tunes will be heard at the most unexpected moments.

There are one or two special points that must be observed in the making of these harps in order that they will play well. The first is in the kind of wood to use, and the second, that no nails must be used in fixing the parts together.

As this particular harp is designed to fit across an ordinary window, it is impossible to give any dimensions as to the length, these, of course, depending upon the width of the actual window it is to occupy.

The Box Frame

A box of thin-straight-grained wood is prepared, having a length equal to the width of the window, a depth of 5ins. and a breadth of 6ins. Deal is the ideal wood to use, but as some difficulty may be experienced in getting this nicely planed down to an equal thickness of ⅛in., it is best to use fretwood of that thickness. Satin walnut is the best for the purpose.



Looking down on the harp without the cover

Make the joints as true and clean as possible, and secure them with liquid glue, cramping the box together until the glue has set hard and then removing the surplus, which squeezes out, with fine glasspaper.

Two bridges are necessary in this type of harp, these being glued at either end of the case at a distance of about 9ins. from the edge. Sound hardwood, such as holly, box or even elm, is used for making the bridges and these should be the full breadth of the case, ½in. high and ¼in. thick.

Tuning

Tuning the harp is done by means of a row of ordinary wood screws driven in along the edge of the case. Holes are drilled to receive the screws so they may be turned easily, yet have sufficient hold to keep the strings at the correct tension.

It is advisable to glue a thin fillet of beech along the edge to provide a hold for the screws, or they may soon lose their grip in the soft wood of the case itself. With the usual slotted wood screw it will be necessary to use a screwdriver for tuning. This may be obviated if small strips of metal are soldered into the slot so that a grip for the thumb and and finger is provided.

Gut may be used for the strings, but a much stronger, sweeter tone is obtained if piano wire is used instead. The strings are tuned in unison, in any key, and piano wires may be obtained in the particular tone required. This assists a great deal in the first tuning of the instrument.

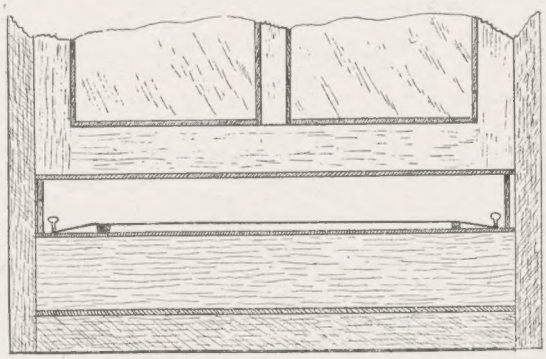
Window Sash Supports

Into each upper corner of the case a 4in. length of ½in. dowel rod is glued, a shallow hole being first bored for its reception. Make sure these pegs are perfectly upright, rigid, and of exactly the same height. Now cut a piece of satin walnut to exactly the same size as the sound board of the harp and all is then ready to fit the finished instrument into place.

Raise the window sash and place the harp across the opening, as shown in the sketch. If you have been very careful with the measurements, the case should fit exactly and just tight enough to hold it firmly in place. Now place the loose board neatly on the corner pegs and lower the sash down on to it, so it is pressed firmly, but gently down on to them.

How it Plays

Soon a draught of air will send a gentle ripple over the strings and you will hear a faint, very sweet and pleasing tune coming from them. Then a sudden gust of wind may come along and the music will rise to a crashing crescendo, fading away, to again crash out with the force of a great orchestra.



Side view of harp in position in the window

The illustrations should make the construction and fitting of this oldest of musical instruments quite an easy matter. You can, of course, make the sound case much wider than that shown and fit more strings, which will increase the compass of notes and add greatly to the variety and volume of your music.

The AMATEUR ELECTRICIAN

AN EASILY MADE VARIABLE RESISTANCE

A GREAT many instances arise in electrical work where some means of controlling the amount of current flowing through a circuit is indispensable. Every one who has accumulators to charge for instance knows how difficult it is to keep the charging current at anything like a constant value throughout the charge.

It is not sufficient to adjust it once for all and then leave the accumulator to itself for a certain number of hours, as owing to changes in the counter electromotive force of the accumulator the current will gradually and continuously fall off from hour to hour. Unless means are taken to keep it fairly constant in value it will be impossible to estimate the total " ampère-hours " of charge that the accumulator has had given to it.

Again, one may want to control the speed of a small motor used for driving a model railway. When the current is derived from a battery or a mains transformer this can be accomplished by using some device to vary the current through the motor.

Variable Resistances, or Rheostats

An appliance which serves for both purposes of control is the Rheostat, or Variable Resistance, and where low voltage circuits are concerned, such as in the above two examples, the amateur can quite easily make up his own apparatus on the lines shown in Fig. 1 at quite a small cost.

A glance at the circuit diagram in Fig. 2 will show exactly what part a resistance plays in controlling the current.

It will be supposed that an accumulator has to be charged from some source of current such as a battery or a dynamo, an ammeter being included in the circuit to indicate the exact rate at which charging is proceeding. Upon the circuit first being closed a current will pass from battery to accumulator, and the amount registered by the ammeter.

After a time the ammeter will show that the original value of current is falling off. This is because the counter electromotive force of the accumulator is increasing. Also, possibly, the voltage of the battery or dynamo supplying the current is falling slightly, due to heat or to polarisation effects.

In order to keep it at a reasonably constant value, therefore, some means of varying the actual resistance of the whole circuit by hand must be included. Thus the resistance of the circuit can be diminished progressively and gradually to compensate for the tendency of the charging current to fall.

If a coil of resistance wire for instance is made up into some convenient form and included in the charging circuit in the first instance, more or less of this additional resistance can be cut out by means of a sliding contact and the charging current thereby kept reasonably constant.

Materials Required for the Rheostat

Most of the standard variable resistances on sale are unfortunately fairly expensive. For use in amateur experiments and very occasional work something far cheaper and equally efficient can be devised. The materials required to build up such a Rheostat are quite inexpensive, and are enumerated below, the letter references corresponding to those given in Fig. 1.

A.—A piece of hard wood such as beech or mahogany for the base measuring 5ins. by 5ins. by $\frac{5}{8}$in. thick.

B.—A tube or " former " upon which the coil of resistance wire is wound. An empty case such as sticks of shaving soap are now commonly sold in, with a moulded screw cap, is very suitable for this item. The cases being made of "Bakelite" or synthetic resin are not only excellent insulators but they resist heat also very well. These cases measure about $1\frac{3}{8}$in. diameter by $3\frac{1}{4}$ins. long and are drawn to scale in the figures.

C.—A strip of hard springy brass five inches long by No. 22 gauge tapering from $\frac{1}{2}$-inch wide at one end to $\frac{3}{8}$in. long at the other. This forms the contact lever and is pivoted at its terminal end, bent back upon itself to give it added elasticity, and slides over the surface of the resistance coil.

D.—Two brass strips 5/16in. wide by 1/16in. thick, bent up into the shape shown in the end view of

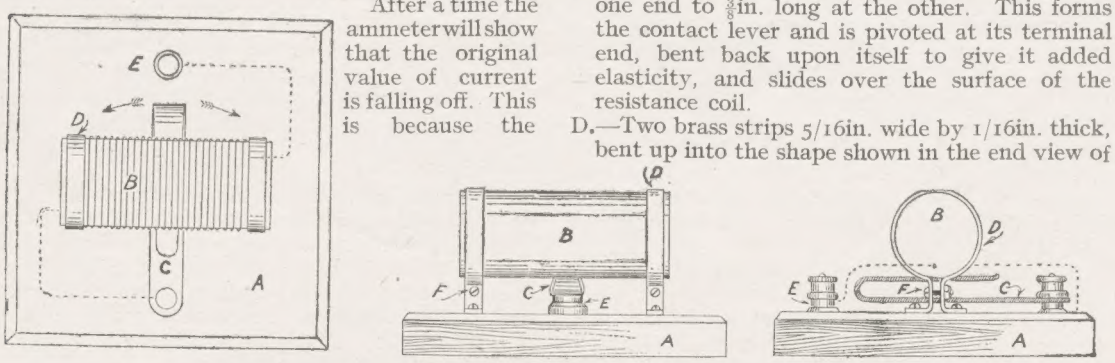


Fig. 1—A plan, side and end view of the instrument

Fig. 1. One of these is slipped over the coil at each end to hold the wire, and held by its pinching screw and nut F, the feet being bent outwards for attachment to the wood base.

E.—Two brass terminals, Post Office pattern, with double nuts and washers.

F.—The two pinching screws used with D are ¾in. long by No. 4 B.A. thread

The final item is eight yards of No. 20 SWG "Eureka" resistance wire, enamel covered, which is obtainable from an address the Editor can supply. This is a special wire having a constant "temperature coefficient," which in plain language means that it keeps of practically constant resistance throughout the range of its working temperatures.

Building Instructions

Plane up and glasspaper the base smoothly, giving it a coat of good varnish or french polish, and drill the holes for the two terminals in the position shown. Prepare the brass clips D for holding the coil to the base and the brass contact lever C.

If these are polished bright with fine emery paper and lacquered it will considerably improve the general appearance.

Winding the resistance coil can be done by hand,

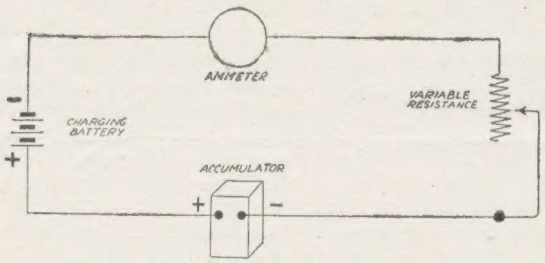


Fig. 2—The circuit diagram

or in the lathe if one is available. It is essential that all the turns of wire should be pulled tightly and evenly and that they lie quite close together. Avoid any kinks in the wire or damage to the enamel covering.

The ends of the resistance wire can be led out of the former through two small holes drilled in its ends leaving the wire sufficiently long to reach the terminals on either side.

As soon as the coil has been completed slip one of the brass clips D over each end and tighten up the pinching screws F. This will grip the wire firmly and prevent the wire from slipping. The feet of the clips can then be screwed down to the wood base and the coil ends connected up to the two terminal posts as shown by dotted lines in Fig. 1. Bare the wire from enamel with fine glasspaper where it is pinched under the terminal nuts.

Making Contact

Before the coil is finally screwed down, the enamel covering on the wire where the sliding lever makes contact, must also be scraped off so metallic contact is assured. This is best done with fine glasspaper stretched over a flat strip of wood and used as a file. The rest of the enamel covering is protected by a C-shaped piece of cardboard held round it so that a track only about half an inch wide is exposed.

The contact lever as it slides to and fro over this track includes more or less of the resistance wire in circuit between the two terminals and so enables a finely graduated adjustment to the current flowing through it.

Resistance and Capacity

With the particular coil specified its total resistance will be about 5¼ ohms and its maximum current carrying capacity three ampères. This will be found a very handy combination for small accumulator charging purposes or as a speed controller for small motors used for model driving.

Since there are approximately 65 turns of wire on the former, and the contact lever passes over only one at a time, sudden variations in the resistance are impossible and it is in fact equivalent to a regulator of the "stud" type with 65 contacts each varying by 8-10oths of an ohm.

Other values of current capacity and resistance can, of course, be arranged by modifying the gauge of wire used on the coil, and readers desiring anything different from the foregoing are invited to send for a specification.

Polishing Turned Work—(*Continued from opposite page*)

A small quantity of polish is applied to the end of this cylinder, and a piece of used linen rag wrapped round it, the part where the polish oozes through being touched with linseed oil, and then applied to the work, passing it along the same as it revolves, and seeing that all parts are covered.

The friction will soon cause a gloss to appear, but it will not be lasting at first. If the rubber is kept supplied with polish, however, the continued friction will soon take effect, the pores of the wood will gradually become filled in, and a lasting polish will result.

The purpose of applying a coat of polish with the brush is to ensure that all parts are covered, which is much easier to do with brush than with rubber, although the latter will polish in parts where it would not cover in the first place.

If time will allow it is well to lay each part on one side for a few hours and then to give it a final rub. The real secret of good polishing is, very little polish but plenty of friction. The latter is somewhat assisted by running the lathe backwards as well as forwards, to rub the work from each direction.

Oak is Oiled Only

It is usually considered that oak should not be polished, but oiled only. But this and any other wood either unstained or stained chemically, can be polished as described. Temperature has a good deal of influence in polishing, and the best results are attained if the work is done under warm and dry conditions. Damp and cold have a dulling effect throughout the operations.

Lessons in Woodturning

How to Polish Turned Work

ALTHOUGH the actual staining and polishing of turned work is the same as in ordinary surface work as regards the material used to obtain the same results, yet it is as well to vary the methods of application of these materials, not only for the sake of economy in these, but in the time and ease of application.

This means that instead of doing the whole of the staining and polishing on the finished article, as would be done in ordinary work, it is best done in the lathe itself as the work proceeds. That is, as each member of a particular article is turned, it should be stained and (or) polished before removal from the lathe, or at least before the centres are trimmed away.

Filling the Grain

In the case of very porous woods the grain can be filled in the same way as for ordinary polishing, by means of whitening mixed stiffly with raw linseed oil, and coloured by adding brown umber, venetian red, or vegetable black, to bring it somewhat near the colour required.

This is applied to the wood on a piece of canvas or rag, while it is revolved in the lathe, applying pressure to force it into the pores of the wood, and then removing the surplus with a clean piece of canvas until the surface is apparently the same as before. The objection often made to the filling is that it fills up the smaller members of the pattern and is difficult to remove.

This objection is a very valid one, therefore it is as well to use filling on large work only, or at least on work which has no intricate patterns, and allowing the pores to be filled with the polish only. This may seem an apparent waste of time, but possibly proves the reverse by the time the work is finished.

The Use of Stain

Any kind of wood looks well when polished without staining of any kind, but it is often necessary to stain to a certain extent so as to match other work or other articles, or even to match the various parts in the same article, the same wood often varying in colour. Stains can be had to match almost any kind of wood, not only coloured, but black, and the ebony stain is really black.

These stains are sold in powder form, and need dissolving in water only, but when using them for turned work do not use them too strong, it is better to give two coats to attain the required depth, than to make the work too dark at first. The one error is easily remedied, the other is not so.

How to Stain

The stain should be applied to the work with a soft clean brush while the work is slowly revolved. Always apply the full brush of stain to the quirks and hollows, thus making sure that these are covered, the plainer surfaces cannot very well be missed.

After the work is well covered, apply a piece of canvas or rag to the surface, revolving the work at a good speed, and running it backwards at times as well as forwards, and paying particular attention to the quirks and corners.

Using Linseed Oil

The staining done and rubbed off (and this latter may well be finished by applying a handful of the turning chips to the work as the latter revolves), the work should be given a coat of raw linseed oil, applying it somewhat plentifully, but rubbing as much off as possible. Again pay particular attention to the small members and corners, so that no free oil is left on any spot, but at the same time making certain that all parts are well oiled.

After the oil, the polish. It is as well to brush on a coat of french polish to form a body, but do so quickly so no lumps are formed. After it is dry, give the work a slight rub with fine worn glasspaper, and then the actual polishing can be commenced. For this a rubber is needed as in the ordinary polishing and consists of a strip of cotton wool some 3ins. by 15ins. long, rolled up tightly so it becomes a cylinder of something over 1in. in diameter by 3ins. long. It is as well to tie it round the middle to keep it in shape.

(*Continued on opposite page*)

Try your hand at making this

SIMPLE GARDEN FOUNTAIN

A FOUNTAIN is an added attraction to any garden or greenhouse and while that about to be described is perfectly simple to make, it will work well and for a very long time at one charge, if the following directions are closely followed.

The reservoir or water container consists of a large, strong metal drum. The kind used for storing motor oil, with a screw cap and of about ten gallons capacity is ideal for the purpose. Clean the drum well out by rinsing it first with paraffin oil and then with boiling water to which a handful of washing soda has been added.

A Clean Drum

This cleansing is most necessary, for if any of the oil which the drum originally contained remains it may choke the narrow jet of the fountain and cause it to cease work until it is cleared.

Now see that the drum is quite airtight and that the screw cap is a good fit. It may need a new leather washer fitting so it will bed down tightly. Near the screw cap drill a hole large enough to pass a cycle valve stem through and having found an old valve, strip it down to the barrel.

Pass the barrel down through the screw cap hole and work it up through the hole you have drilled. This may require some patience and a little ingenuity, but it can be done, providing the hole is drilled quite close to the screw cap.

Assembling the Valve

Having passed it down and up through the holes, secure it in place with the nut used to hold it on to the cycle tube and then reassemble the whole valve in the usual manner. It is as well to fit a new length of valve rubber at the same time and so make sure of perfect results when the fountain is completed.

Now in the centre of the drum drill another hole of a size to fit a length of small copper pipe. If you can obtain a length of petrol pipe from the garage, fitted with a small tap, the most difficult part of the work is overcome. Very often a suitable length of pipe can be had from the scrap-heap, all ready for fitting up, at the cost of a few pence. If so, it is much better than attempting to rig up a tap of some other kind.

The Jet

The end of the copper pipe is to be soldered into the central hole, but before this is done, it is best to arrange for the fountain jet at the other end. It should be noted that the smaller the orifice of the jet, the longer the fountain will work with one charge of water and air.

You must also decide whether a single jet of water is to emerge or if it is to come out in a series of jets to form a spray. Whichever type is adapted, the procedure is much the same.

Jet or Spray?

Solder a plug or cap of copper on to the free end of the pipe and if a single jet is chosen, drill a very tiny hole in the middle of the plug. For a spray, drill a number of tiny holes. These holes must be really small—not larger than the diameter of a small pin, for not only is the effect of a fine jet of water much better, but the fountain will play a great deal longer than if a large jet hole is made.

Now solder the pipe in place, taking great care to make a sound job so that it is quite airtight, and then test the fountain under working conditions.

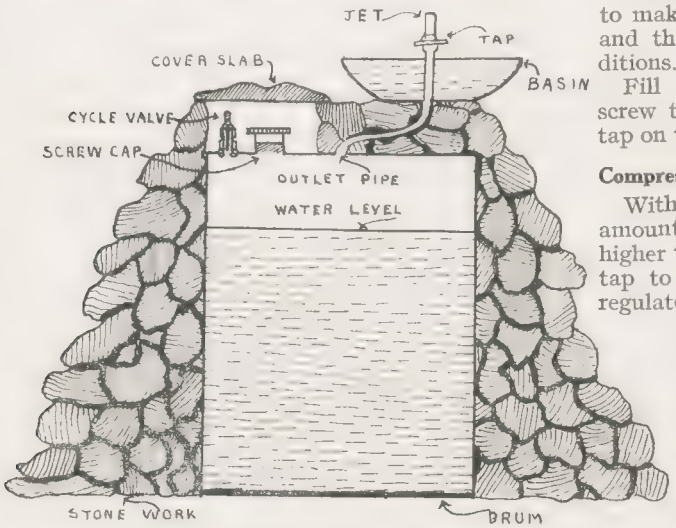
Fill it three-quarters full with clean water, screw the filling cap tightly down and turn the tap on the pipe to the closed position.

Compressed Air

With a cycle pump fill the drum with a good amount of air; the more air you put into it, the higher the jet of water will rise when you turn the tap to the open position. The height may be regulated to some extent by the amount the tap is turned, so if you want the fountain to play for a very long time with a jet two or three feet high, just open the tap a very little way when a good filling of air has been blown in.

The whole arrangement should now be placed into the position selected for it. If required, an ornamental basin can be made with the jet rising up through the centre.

(*Continued foot of page* 255)



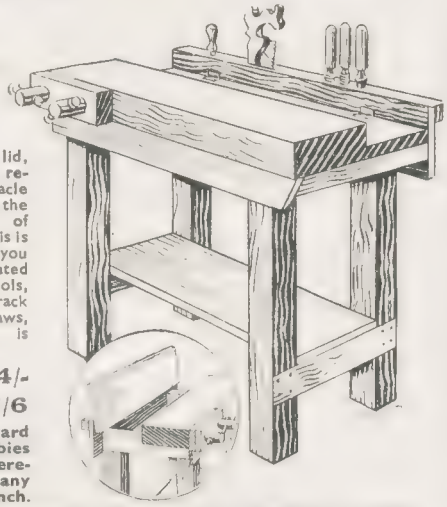
A sectional drawing of drum, fountain and rock covering

A Good BENCH

No longer need you deny yourself the pleasure and satisfaction of owning a good bench. For as little as a guinea you can now buy a strong, rugged bench with tool compartment and double-screw vice. A bench that will stand up to any amount of hard use.

Top 3ins. thick. Legs 3 × 3ins. A Bench built for real hard use.

You do Better Work with a Bench



The hinged lid, when raised, reveals a receptacle running almost the whole length of the bench. This is just the place you have always wanted for storing tools, etc. A tool rack for holding saws, chisels, etc., is also provided.

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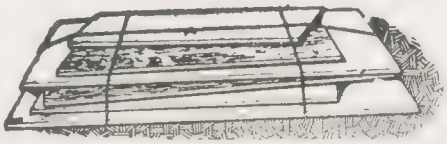
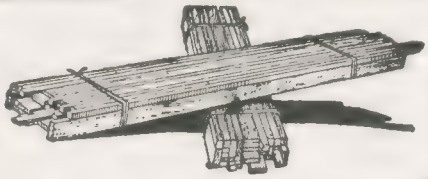
on these bargain parcels of wood



The handyman is always wanting fretwood for various purposes. The parcels shown are special cut lines of good quality boards planed both sides and ready for use. Not a bit of waste among them. Every woodworker should have a stock by him to serve the odd jobs he is constantly undertaking.



MAHOGANY BOARDS

A number of boards of good quality mahogany 3/16in. thick. In varying widths from 9 to 12ins. and totalling six square feet of wood altogether. Ask for Hobbies 6ft. Mahogany Parcel

PRICE 4/- (Postage 7d.).

The HANDY PARCEL

A special parcel of assorted wood of all popular kinds. Narrow boards from ⅛in. to ¼in. thick—oak, mahogany, satin walnut, etc., planed and ready for use. Ask for Hobbies Handy Parcel.

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SOUND BOARDS ONLY

STRIPWOOD

Planed strips of wood 18ins. long and ranging from ⅛ by ¼ to ½ by 1in. Suitable as blocking pieces or for model making. A special assorted parcel, containing 50ft. of wood, ready to cut in any lengths. Ask for Hobbies 50ft. assorted Stripwood

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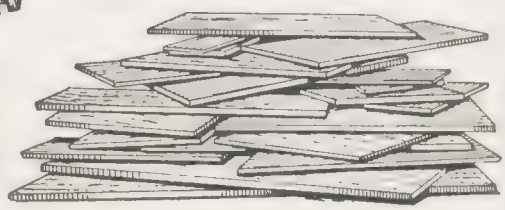
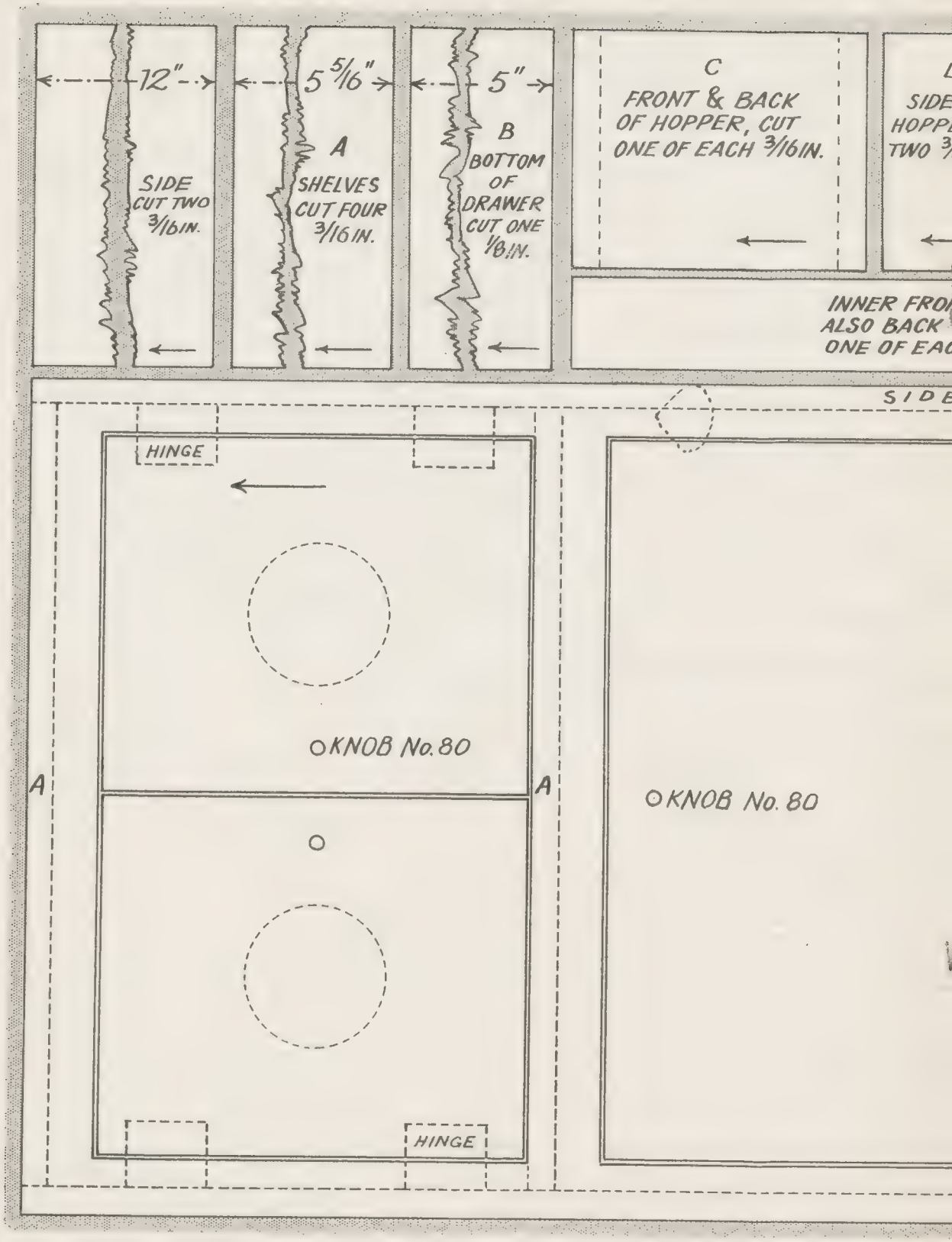


If you are interested in woodwork, get Hobbies booklet on Timber, Plywood, Beading, Moulding, etc., Free on application to Dept. H8., Hobbies Ltd., Dereham, Norfolk. Obtainable from leading ironmongers or Hobbies own Branches at 16 New Oxford St., London, W.C.; 147 Bishopsgate, E.C.; 83 Newington Butts, S.E.11; 326 Argyle St., Glasgow; 10 Piccadilly, Manchester; 9a High St., Birmingham; 4 St. Paul's Parade, Sheffield; 10 Queen Victoria St. Leeds; 25 Bernard St., Southampton. By post from Hobbies Ltd., Dereham, Norfolk.


12"
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5"
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OF
DRAWER
CUT ONE
1/8 IN.
C
FRONT & BACK
OF HOPPER, CUT
ONE OF EACH 3/16 IN.
INNER FRO
ALSO BACK
ONE OF EAC
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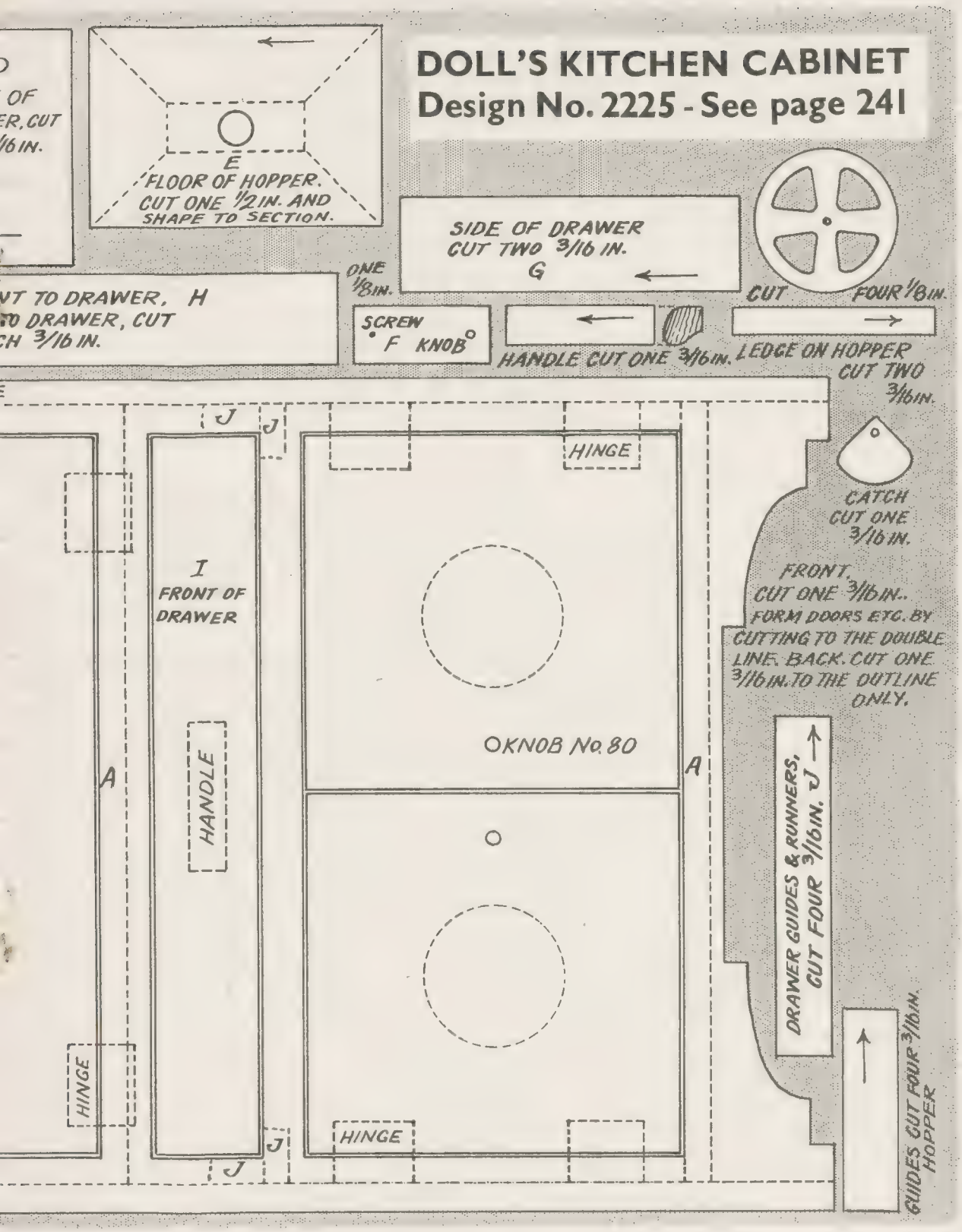
HINGE

DOLL'S KITCHEN CABINET

Design No. 2225 - See page 241



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14in. "Prop"

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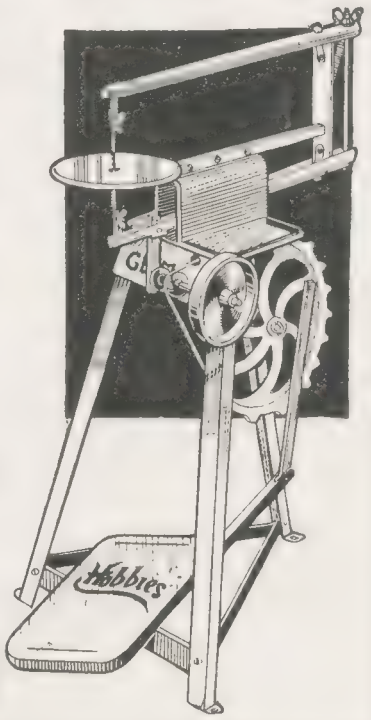
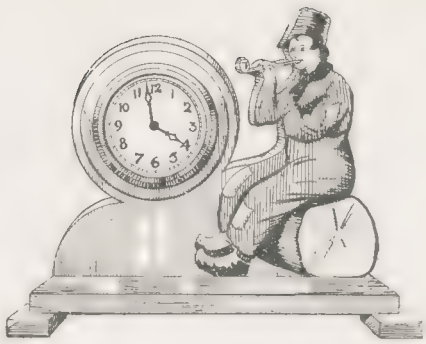


...it must be Good!

SIMPLE DUTCH FIGURE CLOCK



HERE is a charming little clock, on very simple lines too so that it can be made up quickly and easily. The whole idea of the front is centred upon the Dutch figure seated on the log of wood, and the clock itself is contained in a drum on the left. The whole front is set upon a simple base.

At Fig. 1 is a plan of the base, which measures 7 ins. by 2½ins. by ⅜in., with a mortise cut to the measurements. Four corner feet are added to the base 1in. square by ⅜in. thick and glued half on as shown in the sketch. These feet should be fixed last when the other parts have been completed.

For the main front a piece of wood measuring 7ins. by 6ins. is cut square, a series of ½in. squares will be drawn out upon it in soft pencil.

Figure in Colour

The Dutch figure transfer (No. 5608) from Hobbies (price 3d.) is cut out with scissors and then applied to the wood with the proper transfer fixer or polish in the position shown in Fig. 2.

The outline for the fretsaw cutting is thus given in regard to the figure. Follow round the transfer with the saw as far as the knees of the figure and here run off to the shape of the clock frame. The outline is given in the squares of the diagram, and also the centre from which to strike the circles. Wood ⅜in. thick is used for this main front.

No attempt should be made to clean the cut edges with glasspaper as this would spoil the transfer on the front.

The casing for the clock will next be made, and a glance at the sectional diagram Fig. 3 shows how this is made. This must first be a ring of ¼in. wood cut for gluing on the front of the upright. The radius for the outside of the ring is 1⅝ins., while the inside is 1 1/16in. radius, and after cutting out, the outer edge of the ring is rounded with glasspaper as Fig. 3. Glue this ring on with an even margin of 1/16in. all round.

Another ring is next cut, also from ¼in. wood, with an outside radius of 1⅝ins. and an inner radius of 1⅛in. The inner surface of this ring should lie exactly level with the opening in the main upright, so when the bendable plywood is inserted this lies flat right up to the front shaped ring.

Finish the drum with a piece of 1/16in. plywood 1¼ins. long by approximately 6¾ins. wide. It will be noted that the grain of this plywood runs across and not lengthwise of the piece. Coat the interior of the wood rings with thin glue, then bend the plywood and insert it so it fills out the space.

If oak has been adopted for this article, the finish should consist of a light staining, afterwards rubbed up with polish or even varnished.

The clock is inserted by first removing its back plate and then pushing the movement through from the front. In refixing the back plate, do not force the small screws on too tightly or the whole drum and movement may become distorted.

The clock is Hobbies No. 5506, 30-hour at 3/9 or No. 5502 ditto at 5/3, carriage extra.

Fig. 1—Dimensions of the base

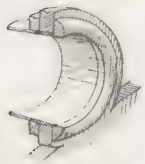


Fig. 3—The clock case in section

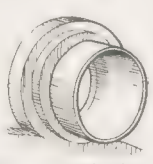


Fig. 4—Back view showing casing

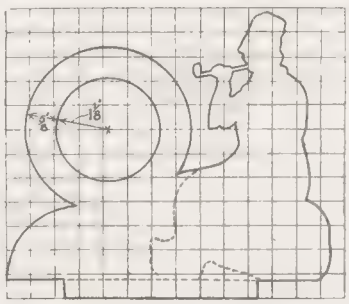


Fig. 2—The main outline in ½in. squares

CUTTING LIST

Base, one piece 7 ins. by 2½ins. by ⅜in.
Upright, one piece 7ins. by 6ins. by ¼in.
Rings, one piece 7ins. by 3½ins. by ¼in.
Drum, one piece 1¼in. by 6¾ins. by 1/16in. plywood.

Garden Fountain – (*Continued from page* 250)

Quite an attractive basin can be made from a worn-out enamelled kitchen basin, by first passing the jet up through the bottom and then coating the whole thing with cement; dabbing little pieces of stone or sprinkling it with gravel while the cement is still soft.

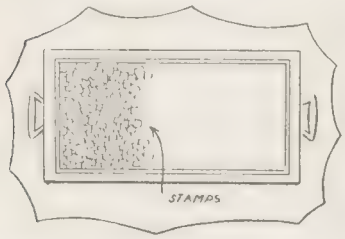
It will usually be found better to arrange the reservoir out of sight. This is done by erecting a rockery over it, but care must be taken to arrange for a single flat stone to cover the filling cap and valve. For these must, of course, be easily accessible when more water or air is needed to make the fountain work.

The sectional drawing herewith should make the work of making and erecting the fountain quite a simple matter.

For original Tips published the sender will receive a Hobbies Handy Propelling Pencil. We cannot acknowledge all those received, or guarantee to print them. Send to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketch if possible.

Use for Surplus Stamps

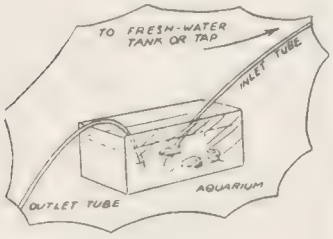
MANY collectors, who are also woodworkers may combine the hobbies in the making of Crazy Trays. Every collector in time accumulates numbers of the commoner stamps, and these can be used to make a very bright



looking tray. Make the frame as usual and before fitting the bottom, cover the entire surface with stamps and cover with glass. The stamps can either form a pattern or be put on crazy-wise, as per sketch, thus producing a very pretty and unusual effect. Old plates, chocolate boxes, etc., can also be covered with stamps and afterwards treated with thin clear varnish.—(A. Wilson, Dennistoun).

To Clean an Aquarium

ALL you have to do is to obtain two rubber tubes of equal diameter and follow the method illustrated. If a fresh-water tank is used, it must be



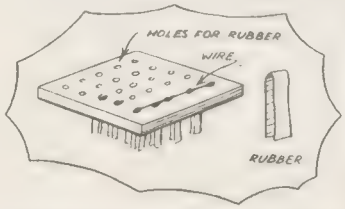
placed at a higher level than the aquarium. The diameter of the tubes must be as small as possible. If this method is adopted, the water would be changing constantly and therefore would remain fresh as well.—(Kok Swee Tuck, F.M.S.)

Removing Tube Caps

AN easy way to remove caps from tubes of paint, tooth-paste, etc. which has become too hard to move with the fingers, is to hold the cap in the steam from a kettle for a short while. It will then be found that the cap can easily be unscrewed.—(G. Harding, Cookham Dean).

Stippling Brush

HERE is an idea for a handy and cheap stippling brush. I have tried this out and the results are really good. A piece of hardwood should be cut to the shape shown, and bored as shown, say ¼in. holes. Strips are then cut from an old inner tube, preferably a thick one, motor cycle or car. These are



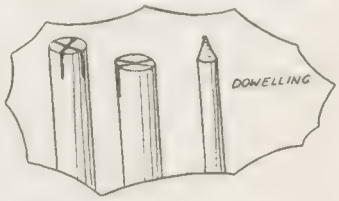
doubled in two, and pulled through the holes in the block of wood. To make the brush stronger still, the rubbers can be fastened by means of wiring. Priming paint should be put on the work to be treated, and then the colour should be applied with a flat brush. Dab the work all over with the stippling brush, and a pleasant result is obtained.—(M. Potter, Laycock).

Solution to last week's Electrical Crossword

T	R	A	N	S	F	O	R	M	E	R
■	A	M	P	S	■	H	■	A	R	C
I	D	E	■	■	I	M	A	G	E	■
■	I	■	O	W	L	■	■	N	■	■
V	O	L	T	I	T	E	■	E	N	D
O	■	S	I	R	■	E	A	T	■	Y
L	L	■	C	E	L	L	■	S	O	N
T	U	B	■	S	O	S	■	■	■	A
A	C	I	D	■	W	■	G	L	I	M
G	I	G	■	O	■	O	N	■	C	O
E	D	■	G	R	A	N	U	L	E	S

Pattern Making

OBTAIN some Hobbies dowelling, different sizes, and make different patterns on the ends with a tenon saw such as shown, or you can chamfer wood to several



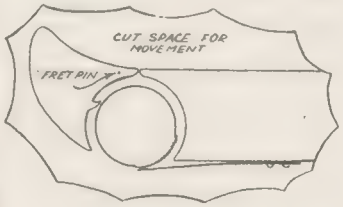
different shapes. Then make your border lines wherever you want them. Give your wood shapes a coating of paint on the end, and then press on the wood and draw away, and you will find that you can make a beautiful border pattern.—(D. Delany, Teddington).

A Cycling Tip

THE constant click of the milometer is often annoying. To end this, take a piece of valve tubing and force it over the striker. It will not come off, if it is not too big. If the rubber is wetted first, it will slip on easier.—(J. A. Oates, Parkgate).

'Quacking Duck' Idea

IN connection with the Quacking Duck toy in Hobbies Weekly, dated Feb. 26th, 1938, a good idea in making the toy more realistic is to cut, as an addition to the tail of duck, a small ratchet which when it runs on the teeth



of the "quack" will easily cause the tail to wag up and down in a very realistic manner (see attached sketch). Cut the tail from the body and drive in a small fret pin to allow the tail to swivel.—(V. R. King, Kenilworth, Jo'burg).

PREPARING THE TENT FOR THE SUMMER

NOW is the time to get out your tent to see that it is in perfect order for the coming season. Strictly speaking, any overhauling necessary should have been done before storing away last autumn, but we are afraid that many people leave small repairs, etc. till camping days are once more near at hand.

For examination and general overhaul,set up the tent in some fairly open position (even though only in a garden) so there will be plenty of space to walk round about.

Having pitched the tent, first inspect the collars surrounding the openings in the ridge where the canvas fits over the poles (in the bell tent there will only be one of these). Usually the actual collar is a circle of rope or cord and this should be firmly secured to the canvas of the tent by strong stitches all round.

Pole Hole Mending

If any of these stitches are breaking away there is danger of the pole going right through the top of the tent when there are any extra stresses and strains about, as on a windy night, or when the canvas tightens rapidly in a sudden shower of rain.

Should repairs be necessary these are made by going right round the circle of cord with one *continuous* spiral stitch, going over the cord at each turn and getting a fresh grip on the canvas every time the needle comes round, even if this means going a little further down than the original needle holes. The pole of course has to be temporally removed for this operation.

Now take a look at the eyelets round the eaves through which the guy-lines go. These have a nasty knack of breaking.

Repairs can be effected however in much the same way as with the crowns by making small collars of cord and then sewing them under the broken eyelets with the same type of continuous stitch as described (and shown in the small inset sketch).

Tools to Use

If the tent in question is of light-weight material an ordinary large needle with strong carpet thread will do, but should it be of heavy canvas (like a bell tent) then a small sized " packing needle " will be needed, and fairly heavy twine.

A sail-maker's " palm " is also useful, this being a little leather and metal pad which is slipped on the hand and greatly assists in forcing the needle through thick materials.

Having made sure the crowns and eyelets are in good condition, examine for any place where a stitch or two may have given way in a seam, as here the proverbial stitch in time may save a lot of work later.

Sew a little distance to either side of the doubtful length, again using a thread suited to the material.

Cycle Patches Useful

Definite rents are mended by putting on a strengthening patch as shown in the top right-hand sketch. The ends of the tear are carefully drawn together in their correct position to one another, to prevent puckering, and then are secured down to the patch by small stitches, the outer edges of the patch being fastened to the main canvas by a line of stitches close round the border.

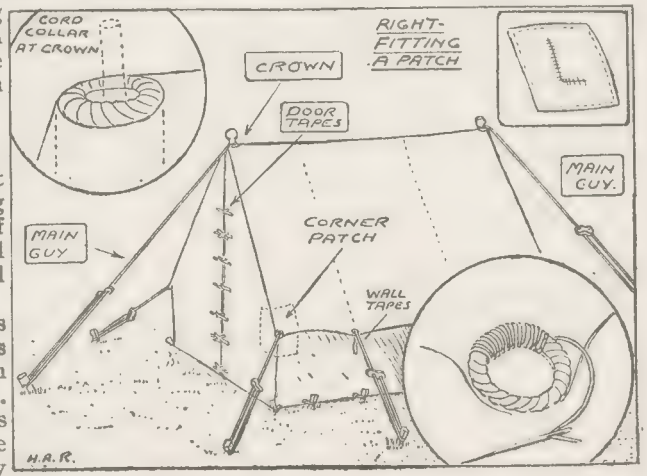
A strengthening patch can often be sewn into the corner where the eaves, wall and roof meet. The strain here is pretty considerable, and it is a point that unfortunately soon shows weakening in some tents. The patch is sewn into the corner with good strong stitches going through to the wall and side, the outer edges being secured as described.

A Mending Patch

Some canvases are inclined to develop a small hole here and there rather early. Although it does not sound very orthodox, such flaws can be mended by one or two of the sticking patches sold to cyclists.

Placed on the inside these patches hold the few frayed threads together, and indeed make a better repair than does stitching, which, unless it covers a good area tends to " chew " up the material round what is really perhaps a very little hole, and so makes it eventually worse.

The only fault with this method of mending, is that the small round discs may be considered unsightly.



While you have the needle and thread about examine the sackcloth or other material strip that runs along the bottom of the walls in many tents.

As this comes in contact with the ground it often rots and becomes tender very quickly. If it is at all out of condition it is best to renew this piece entirely. Also take a look at the door tapes replacing any that are broken and strengthening those that need it with a stitch or two. Examine too the wall braiding tapes.

Check the Pegs

Like many other things it is the small points that matter in looking after a tent. There should be the correct number of pegs always, with it, and these ought to be of suitably graded sizes. Then the two or four pegs for the main guys must be quite long, while the side guy line pegs can be shorter, and those which hold down the bottom of the walls comparatively small.

Runners also should be kept in good condition and any missing ought to be replaced now; model the new pieces of wood from runners already on the tent and use as hard wood as possible.

Check over guy-lines also, and if any make-shift pieces of rope had to be used last year, replace with a length of rope of suitable diameter and quality. Should you be dealing with a side guy-line do not forget the little washer of wood that goes over the knot before the rope is run through the eyelet, as this takes away a great deal of strain from the canvas, distributing the pull more evenly.

A good camper makes a hobby of his tent and knows it by heart, that is to say he can recite the various items of the outfit to himself as he is checking off when packing or unpacking; thus :—"Two large pegs, six middle-sized pegs, twelve small ——. Two main guy-lines, four sections of pole, one mallet——etc., etc."

He does this, as he is interested, without much effort and it makes him able to note the absence of any item at once.

Should your inspection (or last year's experience) have shown that the tent has developed the supreme fault of the camping world, viz., "spraying," which means that the canvas is letting rain spray through, the material should be treated with soapy water, and then alum. Make up the solutions in two buckets. Actual proportions do not matter, but make both fairly strong.

When all is ready take a large white-wash brush and "paint" well the standing tent with the soapy water. Be quite liberal with the solution and work it right in if the canvas is at all thick. When completed let the tent partially dry.

Now take the alum and again go right over the canvas with the solution. The alternating soap and alum may be repeated several times as long as the solutions are, as it were, "laid on" and there is no suggestion of the one merely rinsing out the other.

A final item of examination should be the bag. Although this is not the tent, it too should be kept in good condition.

Mend any obvious holes in the corners which letting in water may rot adjacent parts of the tent. Also repair any eyelets round the top of the bag that may be breaking, so that the opening can be pulled tightly up.

The little flap of canvas that goes over the tent before the bag mouth is closed is of importance and should be renewed if not in good order.

Practice Packing

Should you have any time after the repairs are made, practice rolling and packing the tent properly, as many a tent has been ruined by such things as forcing pegs down the side of one badly rolled.

If after folding and rolling, the canvas will not go easily into the bag undo and refold, making every crease and bend just a trifle tighter. This will be found to work wonders in reducing the bulk of the canvas.

Plastic Wood Inlay Work

A NEW and highly ornamental use has now been found for plastic wood, which any reader can undertake. Plastic wood, of course, is obtainable quite cheaply from Hobbies in tubes or tins, from 6d. upwards.

How often have you admired the beautiful effects produced by wood inlay but have never attempted the work because of the difficulty of fitting the pieces into the recesses cut for them in the main block of wood.

With plastic wood this difficulty is surmounted. The designs are first cut out as for wood carving and the bottom of the carved part is slightly roughened in order to retain the plastic wood when it is pressed into place. This is done by the figures.

After allowing slightly over 24 hours to harden, the rough edges can be removed by means of fine glasspaper. The usual wax finishing and polishing can then be carried out.

When the composition is being applied be generous in the amount used as there is a tendency to shrink when it dries. It is an easy matter to bring down the level of the inlay if it is slightly higher than the surface of the main block, but if the inlay is lower than the main block, a great deal of hard work will be needed to get the whole thing level.

The plastic wood is usually neutral in colour but it can be stained with either oil colours or pigments.

A floral design can thus be completed in its natural colours. Taken a step further some beautiful shaded effects can be produced by using a piece of the composition which has not been evenly stained.

HOW TO KEEP FIT

THERE is no finer exercise for keeping you fit than swimming. It brings into use every part of the body, giving suppleness and strength. Someone has said that the practised swimmer is made of steel springs and rubber. Well what could be better for muscles and limbs—the old notion that muscles should be lumpy and hard as iron has long been discredited.

Actually fitness comes much more from the sound health of internal organs than from any particular outward development, and this is an additional reason why swimming is so good. It does keep the vital organs fit. Kidneys, liver, stomach, all get healthy movement.

The spine is made strong and flexible ; the lungs get fuller use than ever before, and so the blood stream is purified and the whole system toned up. No other single form of exercise is so valuable as correct and deep breathing—and swimming, above all else, does make you breathe well.

Cleanliness

The cleanliness is important. Many people exercise in quite thorough fashion, thus causing perspiration—but actually leave all these poisons thrown out by the pores still on the body, to be reabsorbed or to choke up the skin worse than before. The swimmer cannot do that—his pores are cleansed whilst he exercises.

So if you do not swim then begin right away, and if you do then swim still more.

In these days, especially for those in large towns, swimming can be an all year round thing—for heated baths are fast multiplying. And there is so much variety and interest in swimming that if you take your dips every week of the year there is not the least danger of you ever becoming bored.

The sort of " daily dozen " exercises and " jerks" can easily become terribly dull. Many folk start them bravely, and quietly drop them after perhaps a month. And who can blame them ? If there is no fun in keeping fit it's hardly worth troubling about.

Land Exercises

But there is interest and fun in swimming.

Maybe you do not swim at all. Well, you've twelve months' happy work ahead making a fair beginning. You can choose your own path—seal stroke, dog paddle, breast-stroke, front crawl, back crawl. Any of these can make a fine learner's stroke.

Have lessons ; let some friend help you ; or, what is best fun of all, study your chosen stroke in some sound textbook and from actual swimmers, then go ahead by yourself.

You can be helped in early stages by some sort of support, motor tube, swimming belt, skimmer, or something similar. And, of course, by land drills and home practice. Master the movements of any stroke lying across a stool at home and your task will be very much easier when you get in the water.

Learn the Breast-Stroke

The breast-stroke is most suitable for learning by land drills, because its parts divide up so readily—*one*, sweep arms round ; *two*, draw up arms and legs ; *three*, slide arms forward, make the kick ; *four*, glide at full stretch. Crawl does not split up so conveniently as that, though its movements can be practised without timing. The seal stroke and dog paddle are not strokes in general use, but simply extremely easy and helpful methods by which the eager novice can swim his first five yards very nearly at the first attempt.

But perhaps your early struggles are almost forgotten. Then your " swimming to keep fit " will be rather different. The same healthy movements, with exposure of body to light and air and sunshine, will belong to your daily dips, but the interest and pleasure will come from improving your ability and tackling new things.

A stroke can always be improved. The efforts to attain good style need never cease. And the more correct your movements the better they will be for you physically.

Take it Smoothly

The clumsy swimmer is all jerks and struggle and strain, but with good style comes free, graceful movement, which allows one's strength to be used to the utmost but without undue strain.

You will not rest satisfied with the mastery of a single stroke either. There are at least a score of different ones awaiting your study. To reach a high standard of proficiency with all of them is not going to be achieved in one year, or two.

Just to list a few of the names makes you realize how much there is in swimming—front crawl, back crawl, breast-stroke, side stroke, overarm, trudgen, overarm back-stroke, underarm back-stroke, short-arm back-stroke, back trudgen, two-arm back-stroke, butterfly stroke, life-saving stroke.

Water Games

There's a programme to start off with ! A keep-fit plan that won't give you any slack time for a few seasons !

And all that is only one part of swimming. There are water games of all sorts which you can enjoy, from strenuous water polo, which needs to

be played by giants of fitness, down to tag and follow-the-leader, which the youngest bathers can take part in. Modern bathing pool rafts, and floats, and inflated rubber toys allow plenty of fun too, and encourage that easy confidence and natural watermanship which is the mark of the polished swimmer.

Then there is the sphere of fancy swimming and floating feats, where you need to be both artist and athlete if you would excel. Be sure and develop here as soon as your ability is up to it.

Floating

Can you float horizontally, for example ? Swim on your back to begin, then cease your movements, and remain motionless along the surface with body at full stretch, arms beyond the head and legs together. Push the head well back and keep the lungs inflated—and you ought to be able to stay thus in delightful, relaxed ease.

With a few other floaters you can form all sorts of fascinating combined figures and designs on the surface of the water.

Fancy swimming feats are almost past numbering, feats depending on little sculling or leg fluttering actions, with the body in various floating or swimming positions. You can, for instance, scull yourself along head-first or feet-first, lying on the back or on the breast-hands only moving, from the wrists.

Life Saving

Life-saving needs more robust exertion. There are ways to be learned of releasing yourself from every conceivable sort of drowning clutch. And after that an equal variety of methods of towing-swimming on your back, breast, or side, and pulling or pushing the drowning person along. A friend, of course, serves as the " subject " for your life-saving practice.

Be sure to make yourself proficient in this rescue work as soon as you can. There is nothing in swimming more important, and nothing more interesting as it happens. The practice of it will make you a strong swimmer more quickly than will anything else. Even yet there is one big branch of bathing which has not been mentioned—diving.

Diving

You will certainly want to dive. The right way is to begin with simple plunges and headers as soon as you have begun to swim. But remember that all diving must be in deep water.

So dive. And go on from fixed board to springboard and from springboard to high board. Your nerves will become steadier, your eye more quick, your muscular control more sure, and your grace of movement more marked. Do plain dive, running header, swallow dive, jack-knife, somersault, back dive.

Each will give you new and better control. And when you have mastered all these, you have no more than touched the fringe of diving.

The more you do in the swimming pool, the more ambitious you will become, and the more you will discover there is still to do. But you will enjoy every minute of it, and you will be thoroughly up-to-date, because there won't be any doubt about your general physical fitness.

To fit a winding-type DOOR BELL

NEARLY everybody is replacing their electric (dry battery) door bells with the clockwork type of bell. These novel bells have no upkeep, and are a vast improvement over the " twist the handle " style which work in principle to a bicycle bell.

The big bronze gong, has a " ring " rather like the raucous note of a fire-alarm—none of the puny tinkles which can hardly be heard behind a tram ticket ! The mechanism is wound up in a jiffy by the gong (not with a key) and one winding lasts for weeks.

The gong hammer is set in motion by pressure on a button so no one can tell whether it is a clockwork or electric bell. The complete article costs between 3/6 and 4/6, according to the finish.

A Few Difficulties

Of course, you get instruction with the bell for fitting it to the door, but there are a few difficulties you might come up against which are not mentioned. For instance, the hole in the door should be $\frac{3}{8}$in. or $\frac{1}{2}$in.

An $\frac{1}{4}$in. hole rather interferes with the springy socket projecting at the back of the bell case. When the button plate is screwed centrally over the old or new door hole, insert the button wire to engage with the hole in the back of the button, then cut the wire flush with the door.

The aforementioned socket is inserted over the end of the wire and the casing screwed in place. See that the socket does not touch the sides of the hole in the door.

Narrow Door Stiles

As only two screw holes are provided at the sides of the casing at the back, the central door stile might not be wide enough to take the screws. The only alternative is to drill fresh *upright* holes in the metal.

When doing this, by the way, drill the holes so as not to harm the accurately " set " gong hammer. The screwdriver might slip and buckle it.

Owing to the socket projection at the back, a hole should be drilled in a scrap piece of wood to accept the socket and thus prevent harm and ensure levelness for drilling.

Be sure the screws are driven in firm and tight, because there is a great deal of strain in winding due to a powerful spring.

The EDITOR'S NOTES

THESE warm midsummer days should call for the cooling breeze of an electric fan. On page 244 you have full details how to make one quite easily. Then days like these we have an urge to get into the cool refreshing water and enjoy a swim. On page 259 you will find just how these simple exercises keep you fit. Or if it is really too hot for anything—and some of our friends in the tropics know what that can mean!—then turn your lazy attention to the intriguing medley of outlines in the drawing on page 245. Bearing in mind, of course, that if you make a complete list of them as neat as ever you can it may mean a prize for you.

* * *

ON the other hand you may feel awfully energetic and want to set about making a complete compressed air fountain in the garden. Then see page 250, and if you are proposing to go camping soon—or even later—then read through the tent hints on page 257. Altogether a wonderful list of things to do and make! Enough to make everyone happy, I hope.

* * *

I WANT to thank all those readers who wrote me about the Model Scale Airplanes, and as I expected the feature sure proves a popular one. I am arranging with the expert who does these things to get along with Supermarines, Fighters, Bombers and Private Planes so you should be able to build a real air fleet in miniature.

* * *

A LETTER from a reader on this subject may be interesting in this respect. John Gresty, writing from Betton Moss, Market Drayton says, of course, he thinks it a splendid idea and adds—"When I was at school I made up quite a lot of fighting planes, such as the ones which have been mentioned, and I was more than surprised at the way the schoolboys took such great interest. So I began selling them, and would you believe it, they sold like hot cakes. At this, I kept improving on them and so made them more realistic. Of course the wing span of these planes was very small, something like 4½ins. to 5ins. But they look so real all the same. One day I enlarged a design of mine of the Bristol Bulldog to a wing span of 18ins. and I am still making more."

* * *

THE first Exhibition of Arts and Crafts, arranged by the Burnt Oak Adult Schools and the Watling Association of London, was held recently and proved a great success. There was a wide range of subjects from woodwork to jam making, but all revealed that there are still craftsmen—and craftswomen, of course—who are capable of work in their own particular hobby sphere of which they can justly be proud.

* * *

WE are apt nowadays to deplore the passing of great masters in craft and art and to lament over the advent of machinery to replace much that was hand done. But nobody knows better than I do, that there is still extraordinary enthusiasm and a wonderful cleverness in the hands and brains of a large number of people. For one thing materials, tools, and all necessities are more easily attainable than in the "good old days." There is an amazing range of books on any subject you wish to take up. And there are societies and associations whose constant care is to give the beginner practical advice in learning his subject.

* * *

ALTOGETHER, with all these facilities it is not surprising that some beautiful work is turned out at play. Every Exhibition to which I go proves it, every photograph I receive shows it conclusively. There is an enjoyment and a restful enthusiasm in having a definite hobby, where you can actually turn out something to admire or to use, or to keep; where you can prove your craftsmanship and spend your spare time pleasantly, and without that restless urge which is a craving of today

* * *

YOU would hardly credit the number of letters I receive on this subject of suitable hobbies, and often, tragically enough from cripples who are unable to enjoy all the good things of life as we do. Invariably I am able to help with suggestions which lead, I hope, to new interests and new hobbies.

The Editor

Next Week's Large Design for a VASE HOLDER

MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or £1/11/6 are accepted as one word. Postal Order and Stamps must accompany the order. They will be inserted in the earliest issue. To sell anything except fretwork goods or those shown in Hobbies Handbook. Orders can be sent either to Hobbies Weekly, Advertisement Dept. 30/32 Ludgate Hill, London, E.C.4, or Dereham, Norfolk.

WHY NOT TREAT YOURSELF to a fretmachine? It will double your output in half the time. Prices from 30/- cash or easy payments.—Hobbies Ltd., Dereham.

BRAND New Cabinet Maker's 4in. Precision Planing Machines, £4. Motorised, £7. Electric Motors; Paint Spray Plants; Drilling Machines, etc.—John H. Steel, Bingley.

LATHE AND FRETSAW 95/- carriage forward. Treadle-driven and just the thing for the home handyman. Write for details.—Hobbies Ltd., Dereham.

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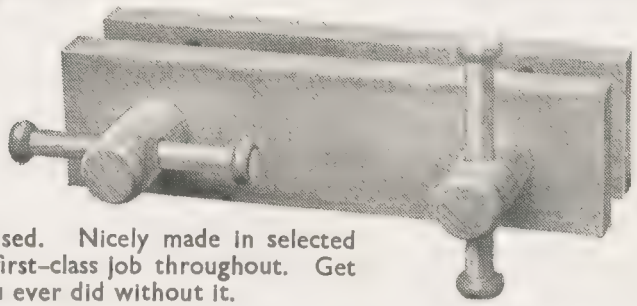

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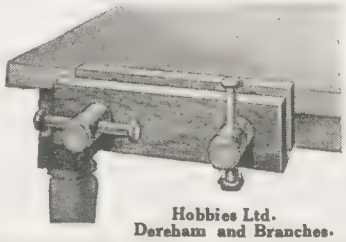

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NOTES ON NEW ISSUES

AGAIN pride of place must be given to the issues of the new reign. This month the most interesting set comes from Fiji, and, as the 2d. and the 6d. values tell us by means of an excellent map, the biggest of these is Vitilevu and Vanualevu. Actually there are about 250 of these islands, but of this number some are only just rocks out of the ocean, and not inhabited.

A Fiji Native Canoe

The islands are of volcanic origin, lofty and well wooded, the climate is remarkably healthy for Europeans, and the vegetation is really luxuriant—sugar, rice, cotton, bread, fruit, bananas.

The set is from the ½d. to the 5/- and as all are truly handsome, it is a pity that we cannot show the lot. The halfpenny, which is illustrated, shows a native sailing canoe.

It might even give some of you an idea as to how to make such a canoe for use on a lake or in calm water. The natives, however, do not confine their trips to the calm water, yet it would be preferable for you to do so as otherwise it might be suggested that our Stamp expert was trying to make you drown yourselves!

The penny value is, in the opinion of the writer, the prettiest stamp of the set, but as this depends so much on the colouring, the beauty would, to a large extent, go in a black and white illustration. So it has not been shown. The design shows a native village, the huts being in a shade of brown while the frame and the King's portrait are in blue.

The three halfpenny shows another view of the native sailing boat and as it gives a side view, anyone who attempts to make one of these should get this stamp as well as the halfpenny and so see the shape of the sails.

The twopenny and the sixpenny have been mentioned as map stamps. They are good. For one thing they show the lines of latitude and longitude, so that after looking at one of these we should be able to turn up Fiji very quickly on the atlas.

The threepenny shows another view of the canoe. In this case they have also put the arms of the colony on the stamp so the view of the canoe is only a distant one and would not help very much.

The fivepenny view with the penny for beauty. Sugar canes are shown growing, and the colour is in this case scarlet for the frame and blue for the sugar. That is certainly not quite natural, but the effect is happy.

The one shilling is a fresh type of fishing stamp. It shows one of the natives standing up to his waist in water holding a lighted torch in his left hand and a spear ready to strike in his right. The two shillings, two shillings and sixpence, and the five shillings are all rather long distance views, Suva Harbour, a river scene, and a Chief's Hut respectively.

The design of the set for Gambia is that shown. All values are the same, and readers who have a specimen of the later issue of King George V (that is after 1922) will be able to recognise that this design is really part of the design of that stamp. The elephant holds his trunk in the same manner and the tree is situated in the same position in each case.

Swaziland has a set of stamps, they are all of the same design as that illustrated. It is the same as in use during the reign of King George V, except that in this issue the King's portrait is turned to the right. Previously it has been facing the other way.

The fourth illustration is the Plebiscite issue of Germany. The two figures, represent Germany and Austria, both supporting the same German flag, with the inscription round the stamp which means—one people, one state, one leader. The date of the plebiscite is also shown—10th April, 1938.

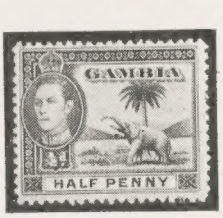
The German Plebiscite

The rather curious feature about this issue is that there were two stamps, both of the same design, but they were printed in different places. One was in Berlin and in this case there was a watermark, a swastika. But in the case of the stamp which was printed in Vienna, the stamp was without any watermark whatsoever.

Egypt has just given us another set of three. This time for the Leprosy Research Congress. The design is after the style of the stamp which she issued in 1927 for the International Cotton Congress. That is it shows a large plant, not cotton this time but the hydnocarpus. It is from this plant that the oil which is used in the treatment of leprosy is used.

Kenya First Day Cover

MR. N. S. Mahomedali of Kenya Colony, very kindly sends a specimen of the new 5c stamp for Uganda, Kenya and Tanganyika on a first day cover. The design, a "dhow on Lake Victoria", is the same as for King George V. except that the portrait of King George VI. now appears in the top right-hand corner. The earlier one has already been mentioned in these pages, but we are always pleased to receive notes of this kind from readers in all parts.



New Issues from Gambia and Swaziland

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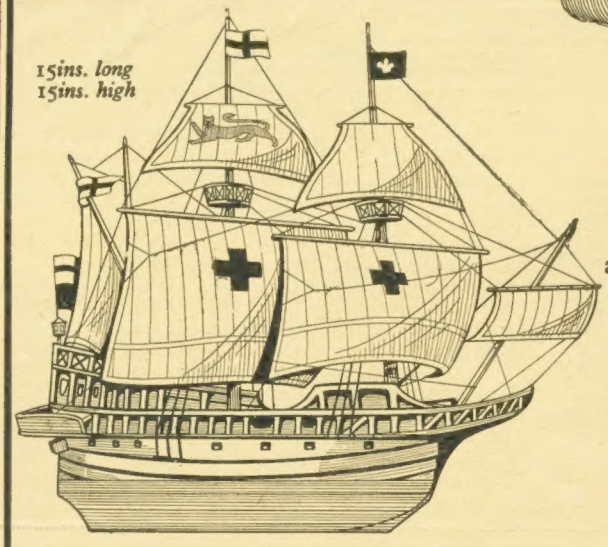

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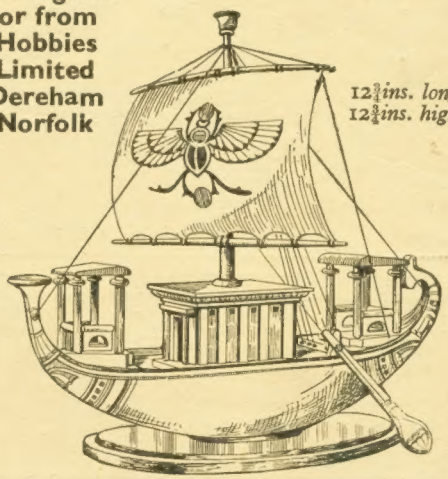

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